



SAFETY DATA SHEET

DOW SILICONES CORPORATION

Product name: DOWSIL™ HM-2600 Silicone Assembly Sealant

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DOW SILICONES CORPORATION encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: DOWSIL™ HM-2600 Silicone Assembly Sealant

Recommended use of the chemical and restrictions on use

Identified uses: Adhesive, binding agents

COMPANY IDENTIFICATION

DOW SILICONES CORPORATION
2200 WEST SALZBURG ROAD
MIDLAND MI 48686-0994
UNITED STATES

Customer Information Number:

800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 1 800 424 9300

Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification

GHS classification in accordance with 29 CFR 1910.1200
Not a hazardous substance or mixture.

Label elements

Precautionary statements

Prevention

Use only outdoors or in a well-ventilated area.

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Silicone elastomer

This product is a mixture.

Component	CASRN	Concentration
Isobutyl trimethoxysilane	18395-30-7	>= 0.6 - <= 1.2 %
Methanol	67-56-1	>= 0.05 - <= 0.15 %

4. FIRST AID MEASURES

Description of first aid measures

General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin contact: Wash off with plenty of water. Suitable emergency safety shower facility should be immediately available.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water spray Alcohol-resistant foam Carbon dioxide (CO₂) Dry chemical

Unsuitable extinguishing media: None known.

Special hazards arising from the substance or mixture

Hazardous combustion products: Silicon oxides Formaldehyde Carbon oxides

Unusual Fire and Explosion Hazards: Exposure to combustion products may be a hazard to health.

Advice for firefighters

Fire Fighting Procedures: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions: Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up: Allow to solidify, use mechanical handling equipment. Sweep up or vacuum up spillage and collect in suitable container for disposal. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

See sections: 7, 8, 11, 12 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not get on skin or clothing. Do not swallow. Avoid contact with eyes. Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice.

Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Conditions for safe storage: Keep in properly labelled containers. Store in accordance with the particular national regulations.

Do not store with the following product types: Strong oxidizing agents.
Unsuitable materials for containers: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
Methanol	ACGIH	TWA	200 ppm
	ACGIH	STEL	250 ppm
	ACGIH	TWA	SKIN
	OSHA Z-1	TWA	260 mg/m ³ 200 ppm

ACGIH

STEL

SKIN

The following substance(s), which have Occupational Exposure Limit(s) (OEL), may be formed during handling or processing:

Methanol.

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Methanol	67-56-1	Methanol	Urine	End of shift (As soon as possible after exposure ceases)	15 mg/l	ACGIH BEI

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use gloves with insulation for thermal protection, when needed. Examples of preferred glove barrier materials include: Polyvinyl chloride ("PVC" or "vinyl"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Wear clean, body-covering clothing.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. When respiratory protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	solid
Color	Clear to slightly hazy, colourless
Odor	alcohol-like
Odor Threshold	No data available

pH	Not applicable
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	Not applicable
Flash point	Seta closed cup 168 °C (334 °F)
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammability (solid, gas)	Not classified as a flammability hazard
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	1.087
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Dynamic Viscosity	Not applicable
Kinematic Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Liquid Density	1.087 g/cm ³
Molecular weight	No data available
Particle size	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Can react with strong oxidizing agents. When heated to temperatures above 150 °C (300 °F) in the presence of air, product can form formaldehyde vapours. Safe handling conditions may be maintained by keeping vapour concentrations within the occupational exposure limit for formaldehyde.

Conditions to avoid: None known.

Incompatible materials: Oxidizing agents

Hazardous decomposition products: Methanol.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):
LD50, Rat, > 5,000 mg/kg Estimated.

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s):
LD50, Rabbit, > 2,000 mg/kg Estimated.

Acute inhalation toxicity

Brief exposure (minutes) is not likely to cause adverse effects.

As product: The LC50 has not been determined.

Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.

Material may be handled at elevated temperatures; contact with heated material may cause thermal burns.

Serious eye damage/eye irritation

May cause slight eye irritation.

Sensitization

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant information found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

No relevant data found.

Carcinogenicity

No relevant data found.

Teratogenicity

No relevant data found.

Reproductive toxicity

No relevant data found.

Mutagenicity

No relevant data found.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:

Isobutyl trimethoxysilane

Acute inhalation toxicity

LC50, Rat, 4 Hour, vapour, > 1525 ppm No deaths occurred at this concentration.

Methanol

Acute inhalation toxicity

Easily attainable vapor concentrations may cause serious adverse effects, even death. At lower concentrations: May cause respiratory irritation and central nervous system depression. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death. Effects may be delayed.

LC50, Rat, 4 Hour, vapour, 3 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Isobutyl trimethoxysilane

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Danio rerio (zebra fish), 96 Hour, > 100 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia sp. (water flea), 48 Hour, > 864 mg/l

Acute toxicity to algae/aquatic plants

NOEC, Scenedesmus subspicatus, 72 Hour, Growth rate, 220 mg/l
ErC50, Scenedesmus subspicatus, 72 Hour, Growth rate, > 1,170 mg/l

Methanol

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Bluegill sunfish (Lepomis macrochirus), flow-through test, 96 Hour, 15,400 mg/l

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), 48 Hour, > 10,000 mg/l

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate, 22,000 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

IC50, activated sludge, 3 Hour, Respiration rates., > 1,000 mg/l, OECD Test Guideline 209

Chronic toxicity to fish

NOEC, Oryzias latipes (Orange-red killifish), 200 Hour, 15,800 mg/l

Persistence and degradability**Isobutyl trimethoxysilane****Biodegradability:** Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

Biodegradation: 36 - 47 %**Exposure time:** 28 d**Method:** OECD Test Guideline 301B**Stability in Water (1/2-life)**

, DT50, 4.6 Hour, pH 7

Methanol**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.**Theoretical Oxygen Demand:** 1.50 mg/mg**Chemical Oxygen Demand:** 1.49 mg/mg Dichromate**Biological oxygen demand (BOD)**

Incubation Time	BOD
5 d	72 %
20 d	79 %

Photodegradation**Test Type:** Half-life (indirect photolysis)**Sensitization:** OH radicals**Atmospheric half-life:** 8 - 18 d**Method:** Estimated.**Bioaccumulative potential****Isobutyl trimethoxysilane**

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 2.1 Estimated.

Methanol

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -0.77 Measured

Bioconcentration factor (BCF): < 10 Leuciscus idus (Golden orfe) Measured

Mobility in soil

Isobutyl trimethoxysilane

No relevant data found.

Methanol

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 0.44 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section 10 Regulatory Information, MSDS Section 15

Treatment and disposal methods of used packaging: Empty containers should be recycled or otherwise disposed of by an approved waste management facility. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Do not re-use containers for any purpose.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Environmentally hazardous substance, solid, n.o.s.(Xylene)
UN number	UN 3077
Class	9
Packing group	III
Reportable Quantity	Xylene

Classification for SEA transport (IMO-IMDG):

	Not regulated for transport
Transport in bulk	Consult IMO regulations before transporting ocean bulk

according to Annex I or II
of MARPOL 73/78 and the
IBC or IGC Code

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

No SARA Hazards

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

Calculated RQ exceeds reasonably attainable upper limit.

Calculated RQ exceeds reasonably attainable upper limit.

Components	CASRN	RQ (RCRA Code)
Xylene	1330-20-7	100 lbs RQ
Xylene	1330-20-7	100 lbs RQ (F003)
Ethylbenzene	100-41-4	1000 lbs RQ
Ethylbenzene	100-41-4	100 lbs RQ (F003)
Methanol	67-56-1	5000 lbs RQ
Methanol	67-56-1	100 lbs RQ (F003)
Toluene	108-88-3	1000 lbs RQ
Toluene	108-88-3	100 lbs RQ (F005)
Benzene	71-43-2	10 lbs RQ (D018)
Benzene	71-43-2	10 lbs RQ
Xylene	1330-20-7	100 lbs RQ
Xylene	1330-20-7	100 lbs RQ (F003)
Xylene	1330-20-7	100 lbs RQ
Xylene	1330-20-7	100 lbs RQ (F003)
Ethylbenzene	100-41-4	1000 lbs RQ
Ethylbenzene	100-41-4	100 lbs RQ (F003)
Methanol	67-56-1	5000 lbs RQ
Methanol	67-56-1	100 lbs RQ (F003)
Toluene	108-88-3	1000 lbs RQ

Toluene	108-88-3	100 lbs RQ (F005)
Benzene	71-43-2	10 lbs RQ (D018)
Benzene	71-43-2	10 lbs RQ
Xylene	1330-20-7	100 lbs RQ
Xylene	1330-20-7	100 lbs RQ (F003)

Pennsylvania Right To Know

The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components

Methoxylated Polysilicate
Dimethyl siloxane, trimethoxysilyl-terminated

CASRN

Trade secret
Not available

California Prop. 65

WARNING: This product can expose you to chemicals including Ethylbenzene, which is/are known to the State of California to cause cancer, and Methanol, Toluene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Hazard Rating System**NFPA**

Health	Flammability	Instability
0	1	0

HMIS

Health	Flammability	Physical Hazard
0/	1	0

Revision

Identification Number: 4129468 / A713 / Issue Date: 04/11/2019 / Version: 11.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	ACGIH - Biological Exposure Indices (BEI)
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
SKIN	Absorbed via skin
STEL	Short-term exposure limit
TWA	8-hour, time-weighted average

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation,

and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW SILICONES CORPORATION urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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